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# Laser X-rays allow atomic scale images

By Anne M. Stark  
NEWSLINE STAFF WRITER

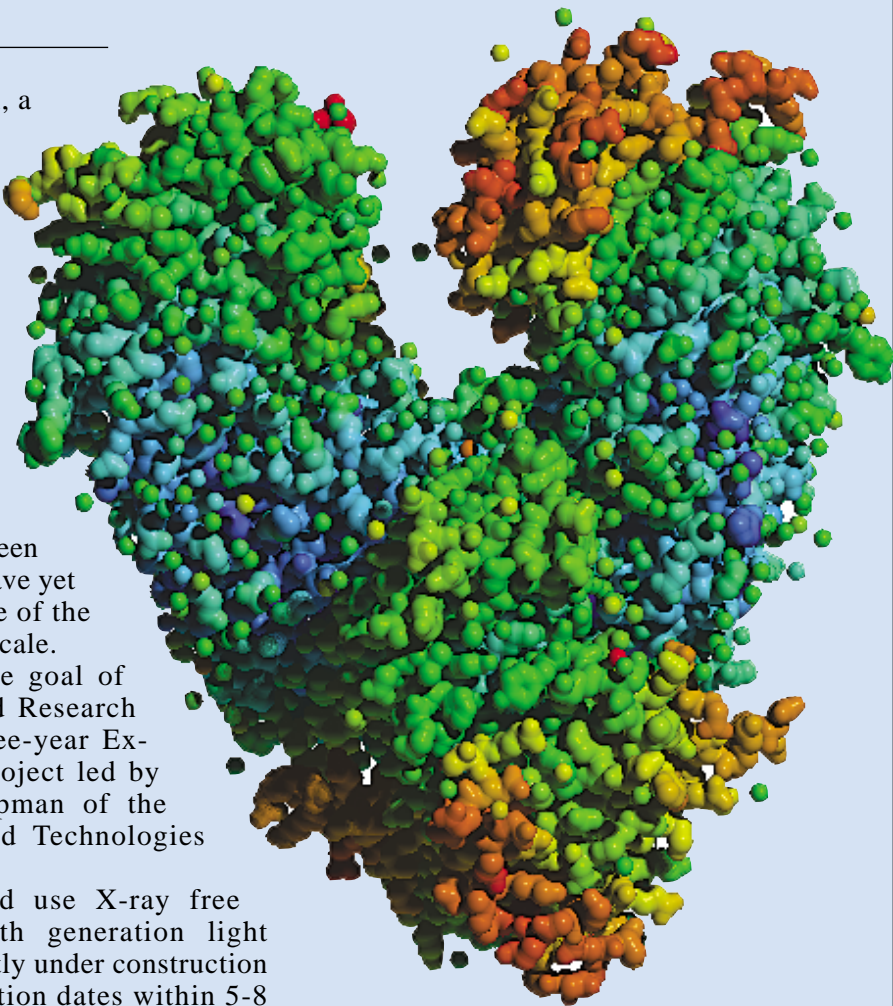
Imagine if you will, a world where in less than 20 femtoseconds, a scientist could view a disease at the molecular level to learn not only the sequence of a protein in that disease but the structure: how it works with other cells, what it binds to and how.

While the human genome has been sequenced, scientists have yet to discover the structure of the genome at the atomic scale.

That's the ultimate goal of a Laboratory Directed Research and Development three-year Exploratory Research project led by physicist Henry Chapman of the Physics and Advanced Technologies Directorate.

Researchers would use X-ray free electron lasers, fourth generation light sources that are currently under construction with expected completion dates within 5-8 years. By using these lasers, Chapman and a multi-disciplinary team of biologists,

See CELLS, page 8



A full three-dimensional reconstruction of the anthrax protein requires many diffraction patterns at many views to observe it molecularly.

# San Francisco conference concludes cooperation key to homeland security

By Stephen Wampler  
NEWSLINE STAFF WRITER

SAN FRANCISCO – Stressing the importance of regional cooperation, about 200 Northern California leaders gathered Wednesday to discuss ways to work together to prevent terrorist attacks in the Bay Area and to minimize the effects of any that do occur.

The one-day Bay Area Conference on Regional Preparedness and Homeland Security brought together Department of Homeland Security representatives,

See HOMELAND, page 8

# Tri-Valley emergency guide targets 74,000 area residents

By Gordon Yano  
NEWSLINE STAFF WRITER

Residents and businesses in the Tri-Valley will be receiving information on how to prepare for and respond to community emergencies, thanks to a collaboration between the Lab and community emergency response agencies.

The Tri-Valley Community Emergency Response Guide is being mailed to some 74,000 area addresses. It includes



See EMERGENCY, page 7

# UC health plan premiums expected to increase in 2004

Open Enrollment, the time of year when University of California employees may make changes to their health benefits, is quickly approaching.

While the costs of co-payments or deductibles will not change, employees will see increases in the cost of their health plan premiums. These increases are due to the state budget crisis as well as skyrocketing health care costs across the country.

It is important for employees to be well informed and to make careful decisions regarding health care plans. Last week, UC released the health care plan costs for employees and their families, which differ based on the employee's income level and the number of dependents on the plan.

Human Resources will provide more infor-

See HEALTH CARE, page 8

# New UC president Robert Dynes assumes office

Robert Dynes assumed office Thursday as the 18th president of the University of California, succeeding Richard Atkinson, who served for eight years.

Dynes, a physicist, was previously Chancellor of UC San Diego. He was named to succeed Atkinson by the UC Board of Regents in June.

The following is a statement to UC employees from Dynes released on his first day in office and a farewell message from Atkinson.

On Thursday, Dynes wrote: "It is with great pride in the accomplishments of the University of California and great excitement about this institution's future that I assume the presidency of the UC system today.

"This is the premier university in the world, a place where the very best come to study, to work, and to learn. It also is an institution that has a deep



Robert Dynes

impact on the society around it. California today is the envy of the world — a testament to the success of innovation, diversity, tolerance, risk-taking, and entrepreneurship. Much of that success simply would not be possible without the University of California and its contributions to education, health care, job creation, and an improved quality of life.

"This is a great institution because of the greatness of its people. Our faculty are world leaders who provide a level of excellence in teaching and research that is unmatched by any public university. Our committed,

hard-working staff provide highly effective and absolutely critical support to the academic enterprise. Our students are the very best academic performers from all corners of California, and they

See UC, page 7



Engineer on track

— Page 3



Note worthy piano test

— Page 5



Training with class

— Insert





## LAB COMMUNITY NEWS

### Weekly Calendar

#### Technical Meeting Calendar, page 4

Friday  
**3**

A representative from **California Casualty Insurance** will be in the Benefits Office today. Appointments are required and may be scheduled by calling 2-9955. California Casualty offers individual rates to Lab employees by payroll deduction for auto and homeowner/renter insurance. As with any employee-paid insurance coverage, employees are encouraged to comparison shop.

Saturday  
**4**

**The Livermore Family Carnival & Fall Festival** will take place today from noon to 4 p.m. at Arroyo Seco Elementary School, 5280 Irene Way, Livermore. The free festival will feature continuous live entertainment, carnival games and prizes, crafts for kids, a hay bale maze, fun food, gift basket raffles, face painting, free customized child I.D. kits, activity and shopping booths, as well as a sale of used books, music, video and software at 50 cents each. For more information, go to <http://www.arroyoschool.org>

Thursday  
**9**

The Employee and Organization Development Division (EODD) offers a brown-bag briefing for employees interested in pursuing an undergraduate or graduate degree today from noon to 1 p.m. Bldg. 571, room 2301. This is a good opportunity for employees to learn about the **Lab's tuition assistance program**, meet others interested in going back to school, and talk one-on-one with EODD staff. Contact: Joanne Olson, 4-5479.



The Employee and Organization Development Department has openings in the following course: **Interpersonal Problem Solving** (ED7345): an interactive two-day workshop open to all employees. Participants will learn the skills needed to give positive feedback and resolve problems with peers, supervisors, team members, and others in many situations at work and elsewhere. This workshop is scheduled for October 21-22, at the Training Center (T1879). For additional information or to enroll, contact EODD Training at 2-4842.

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**B Division's fall book sale** will return Nov. 3-7, 11:30 a.m.-1:30 p.m., in Bldg. 132, room 1200 (Q- or L-cleared access only). Used books, videos, CDs and books-on-tape are needed; all proceeds are used to buy Christmas gifts for needy children. Each year the sales help agencies such as Tri-Valley Haven, Children's Hospital, Contra Costa County Child Abuse Prevention Council, Council for the Spanish-Speaking, plus individual families in need. A collection box is available in the lobby of Bldg. 132, in the Health Services (Bldg. 663) lobby, and in Bldg. 253, room 1531. For more information, call Lynn Groves, 2-1684.



FRANK NUÑEZ/IBIS

Women's Center of San Joaquin County development director Leslie Heier, left, shows off artwork by the children of clients to HOME committee members and center staff.

## Donations aid women and children in need

By Alane Alchorn

IBIS

Domestic violence is chilling, terrifying, and startlingly more common than many of us can imagine. October is Domestic Violence Awareness Month, and the staff at the Women's Center of San Joaquin County knows that it takes uncommon courage to make that first call for help.

Two years ago, when President George W. Bush signed the original national proclamation, he wrote, "National Domestic Violence Awareness Month provides us with a special opportunity to emphasize that domestic violence is a crime, to warn abusers that they will be prosecuted, and to offer victims more aid and support."

That aid and support are put into action by organizations such as the Women's Center: agencies and shelters that provide real-life alternatives to abuse, assault, and fear. A single call to the 24-hour domestic violence hotline at (209) 465-4997 engages the aid and support necessary to break the cycle of domestic abuse and family violence.

Staff and volunteers at the Women's Center of San Joaquin County expect to assist more than 3,500 victims of domestic violence in 2003. The Center is in its 28th year of providing alternatives

to violence and abuse, thereby making San Joaquin County a safer place for women and their children — and even some men.

Executive director Joelle Gomez quotes a typical client. "Without the Women's Center, my life wouldn't have changed, and my children wouldn't have stood a chance. Thank you for your help."

For the 29th consecutive year, the Lab's HOME (Helping Other More Effectively) Campaign will help employees and contractors support the Women's Center and other local nonprofits, as well as umbrella agencies such as the United Way, EarthShare, Community Health Charities, and the Tri-Valley Community Foundation. Donors can select monthly payroll deductions or contribute one-time donations to a favorite community or national cause.

The ambitious goal for this year's campaign is \$1.5 million. In a break with tradition, the annual Run for HOME is set for Wednesday Oct. 29, not on Halloween. It is on the preceding Wednesday to avoid disrupting alternative work schedules.

Concurrent with the run, the annual Agency Fair will convene in the parking lots near the South Café, adjacent to the Southwest Gate. For much more information about the HOME Campaign, point your browser to [www-r.llnl.gov/home2003](http://www-r.llnl.gov/home2003).

## IN MEMORIAM

### Edward Fleming

Retired nuclear chemist Edward H. Fleming, a veteran of atomic testing in the 1950s, died in Sherman Oaks, Calif. on Sept 24.

A long time resident of Pleasanton, Fleming's Laboratory career spanned 37 years.

Over the years he was involved in a variety of aspects of atomic testing, including atmospheric tests in the Bikini and Eniwetok Atolls in 1958 and later underground tests in Nevada. Fleming was also a member of the U.S. team that in 1974 negotiated a test ban treaty in Moscow. In the 1970s, he was assigned as the Laboratory's liaison to the Atomic Energy Commission.

Born in St. Louis, Missouri and raised in Davenport, Iowa, he was a *summa cum laude* and valedictorian graduate of Wabash College, Indiana, where he was also elected a member of Phi Beta Kappa. He received his doctorate from UC Berkeley in 1952, working under three Nobel prize winners. He came to work at the Laboratory in 1954.

An avid golfer, he was a member of the Castlewood Country Club. Fleming served as a director for many years and as president in 1991.

He was preceded in death by his wife of 40

years, Sigrid Fleming. He is survived by his mother, Eva Marie Fleming Bradley, and his brother, David Fleming, both of Los Angeles.

## Newsline

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NEWS OF NOTE



For Lab engineer rubber hits the road on NASCAR oval

By Dale Sprouse

IBIS

Scott Winters’ mother apparently never considered that her son would go on to race competitively with NASCAR when she suggested several decades ago that her then 8-year-old get involved with go-carts.

“My dad worked out of town when I was very young, and my mom thought it (go-cart racing) was something we could do together when he was home,” Winters recalls. “It worked out that way. It was nice.”

Winters, today an engineer with the National Ignition Facility and a regional NASCAR “Grand American Modified” champion, sees many similarities between NASCAR racing and engineering at the Laboratory. Key among them is the emphasis on safety when dealing with high performance systems.

As an engineer, Winters feels he is able to bring more to racing than the average driver — for example, knowing what it takes to keep a complex machine tuned to deliver performance. “With a race car, you are running a machine to the red line in every aspect,” Winters said.

As a kid growing up in Redding, Winters raced go-carts there for about a decade. Then he notched his racing up to the regional level, competing from Washington state to central California and into parts of Nevada, winning the International Karting Federation’s Division 6 regional championship in the late ’70s. He went on to compete nationally until the age of 16.

In his high school years, Winters found himself drawn to the mini-stock circuit, racing four-cylinder stock cars such as Toyotas, Datsuns, Volkswagens and the Ford Pinto. “I performed my best in my rookie year, and finished second in the championship point standings in my second year,” Winters recalled.

With college beckoning, he decided to stop racing and focus on his education. He first attended Shasta Junior College, and then moved to UC Davis to study engineering. He joined the Laboratory in 1993 after receiving his master’s degree in engineering from UC



Scott Winters had another successful NASCAR season. He finished first in the weekly series championships at the Madera Speedway, his home track, and fifth in the Sunbelt Region.

Davis, but continued his education while at the Laboratory through the Instructional Television link to UC-Davis, earning his Ph.D. in 1998.

A little more than a year before he received his doctorate, he found himself back in racing. A team from Redding that wanted to race at Altamont Raceway Park got hold of Winters, who had settled in Tracy, and asked if he would be interested in helping them out.

Tapping into his previous racing experience and engineering background, Winters played the role of “crew chief,” making decisions on such things as the suspension set-up, and what springs, shocks and tires to run on the racecar. Then the car owner offered Winters the chance to take the vehicle for a spin around the track — “not race it, just drive it around the track,” said Winters, but that was enough, he conceded, to get “the blood flowing again.”

He got back into racing full-time in 1997, buying a NASCAR Grand American Modified, and won the rookie of the year championship at Altamont Raceway Park as an owner-driver in the NASCAR Dodge Weekly Series.

In 1998, he took the year off. “It was difficult to

time job,” he explained

Winters said the team he joined in 2001 and for which he is still driving has the support structure set up to put a good product out.

And he added, modestly, “I think that was one big reason that we were able to win the (Sunbelt Regional) championship in 2002.” In addition to the regional title, Winters wound up placing fifth overall nationally that year in the NASCAR Dodge Weekly Series.

What does it take to hurl a 550-horsepower, methanol-gulping metal machine around an oval at speeds of 125 mph? Discipline and focus, he answers. “You need to be able to concentrate and to keep it going without letting fatigue distract your focus,” he said.

Winters is currently leading the championship points at Madera Speedway, his primary track, about 20 miles north of Fresno, and is ranked fifth in the Sunbelt region as he attempts to repeat as champion. The 2003 racing season runs through September.

He would like to drive other NASCAR-style cars but realizes it is too late for him to break into the top-of-the-line Winston circuit. “I am 35 and enjoy what I’m doing,” he says, “and I’m looking forward to the day my son gets behind the wheel of a race car.”



ART WONG/HR

Dress for success

Marina Gonzalez (left) and Susan Springer (right) organize the donated items collected during the recent LLLWA Wardrobe for Opportunity clothing drive.

Gonzalez of Administration and Human Resources Directorate’s Recruiting & Employment Division, is responsible for bringing Wardrobe for Opportunity, a Lawrence Livermore Laboratory Women’s Association (LLLWA) community outreach activity to the Lab during the week of Sept. 15. Wardrobe for Opportunity is a volunteer-based, non-profit organization that provides Bay Area women in time of need and transition with free professional clothing and image enhancement.

If you interested in learning more about Wardrobe for Opportunity, you can go to their Website at <http://www.wardrobe.org>.



# NEWS YOU CAN USE

## Heuze elected ISRM vice president

At its board meeting in Johannesburg on Sept. 6, the International Society for Rock Mechanics (ISRM) elected Francois Heuze of the Energy and Environment Directorate the new vice president for North America. Johannesburg was the site of the 10th Congress of ISRM. The ISRM has about 6,000 members from more than 50 countries.

The National Science Foundation supported Heuze's travel, because he chaired a workshop on the proposal for a U.S. Deep Underground Science and Engineering Laboratory (DUSEL) to be created at the site of the Homestake Mine in Lead, S.D. The DUSEL, promoted by the U.S. physics community, would be the location of a neutrino laboratory that requires very large underground openings at a depth of 8,000 feet.

"This very deep laboratory presents a considerable challenge in rock engineering, and the South Africans are working underground at such great depth," Heuze said.

In his four-year term as vice president North America, Heuze will be responsible for ISRM-related activities — such as membership matters, communication with the ISRM Board and with the ISRM Secretariat in Lisbon, Portugal, and oversight of the biennial North American Rock Mechanics Symposia — in Canada, Mexico and the United States. The next such symposium is taking place in Houston, Texas, in June 2004 and Heuze is actively involved in its preparation.

Heuze is also the president of the American Rock Mechanics Association (ARMA) that is the U.S. National Group within the ISRM.

"Notwithstanding my ARMA role, I have to promote coordination between the three North American member countries and we held a productive meeting during the ISRM Congress. However, much remains to be done because of membership issues both in Canada and Mexico," Heuze said.

## Buckle Up



*Educating the Lab population on the importance of using a safety belt — whether it's driving a personal car or a government vehicle.*

## Technical Meeting Calendar

Friday  
**3**

**ELECTRONICS ENGINEERING**  
"Distributed Access Control and Policy Management & Security Analysis of Network Protocols," by John C. Mitchell, Stanford

University. 11 a.m., Bldg. 235, room 1090/Gold Room (uncleared area). Contact: Alex Spiridon, 3-3368, or Robin Sachau, 3-5864.

**INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH**

"A C++ Reflection Library," by Kenneth Chiu, Indiana University. 10 a.m., Bldg. 451, room 1025 (property protection area). Contact: Tom Epperly (CASC) 4-3159, or Leslie Bills 3-8927. For more information see URL (<http://www.llnl.gov/casc/calendar.shtml>).

**CHEMISTRY & MATERIALS SCIENCE**

"Ultra-thin Layers in Microelectronics Studied by Low-Energy Ion Scattering," by Hidde H. Brongersma, Eindhoven University of Technology and Calipso B.V., Eindhoven, The Netherlands. 3:30 p.m., Bldg. 235, Gold Room. Coffee and cookies will be served at 3:20 p.m. Contact: Tom Felter, 2-8012, or Rebecca Browning, 2-5500.

**INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH**

"A User-Friendly Probability Machine, with Applications," by Brandon Fitelson, UC Berkeley. 11 a.m., Bldg. 451, room 1025 (property protection area). Contact: Tina Eliassi-Rad (CASC), 2-1552, or Leslie Bills 3-8927.

Tuesday  
**7**

**LC CUSTOMERS MONTHLY MEETING**

Come and hear about the new and exciting hardware. 9:30-11 a.m., Bldg. 111, Poseidon Room (Q-cleared).

Contact: Teresa Delpha, 3-7329.

Thursday  
**9**

**PHYSICS & ADVANCED TECHNOLOGIES**

"Nuclear Data for Understanding Accreting Neutron Star Processes," by Ryan Clement, Michigan State University,

National Superconducting Cyclotron Laboratory. 1:30 p.m., Bldg. 2128, room 1000, badge required. Contact: Dennis McNabb, 3-0749, or Pat Smith 2-0920.

Friday  
**10**

**INSTITUTE FOR GEOPHYSICS & PLANETARY SCIENCE**

"Diversity in Cosmic Explosions," by Dale A. Frail, National Radio Astronomy Observatory. Noon, Bldg. 319, room 205. Contact: Wil van Breugel, 2-7195, or Josie Morgado, 3-4188.

Tuesday  
**14**

**H DIVISION**

"Microdiffraction Analysis of Hierarchical Dislocation Organization," by Rosa Barabash, Oak Ridge National Laboratory. 10:30 a.m., Bldg. 219, room 163 (badge required). Contact: James Belak, 2-6061, or Darlene Klein, 4-2868.

Thursday  
**16**

**STUDENT EMPLOYEE GRADUATE RESEARCH FELLOWSHIP (SEGRF) PROGRAM**

Laboratory scientists, researchers, post-docs and student employees are

cordially invited to attend the fourth annual poster presentation by participants in the SEGRF Program. 3-5:30 p.m., South Cafeteria. For information, call the University Relations Program office, 3-9225, or 2-0394.

**ELECTRONICS ENGINEERING TECHNOLOGIES DIVISION**

"Signed Roots and Conditional Inference," by Russell L. Zaretzki. 10 a.m., Bldg. 1677, room 1085. Contact: Cathy Kenton, 4-3875.

**INTEGRATED COMPUTING & COMMUNICATIONS**

Total view users meeting presentation, by John DeSignore, Etnus, LLC. 10 a.m., Bldg. 451, White Room (uncleared area). Coffee will be served at 9:30 a.m. Contact: Karen Warren, 2-9022.

Friday  
**24**

**CHEMISTRY & MATERIALS SCIENCE**

"New insights Into the Liquid Water Surface from X-Ray Spectroscopy of Liquid Microjets," by

Richard J. Saykally, U.C Berkeley. 3:30 p.m., Bldg. 235, Gold Room. Coffee and cookies will be served at 3:20 p.m. Contact: Jim Tobin, 2-7247, or Rebecca Browning, 2-5500.

The deadline for the next Technical Meeting Calendar is noon, Wednesday.  
Send your input to [tmc-submit@llnl.gov](mailto:tmc-submit@llnl.gov).



## NEWS OF NOTE



## NEWS FROM THE NEVADA TEST SITE

## Subcritical acclaim for Piano performance

MERCURY, Nev. — Test Director Walter Dekin reports that Livermore scientists successfully completed a subcritical experiment called Piano at 1:44 p.m. Friday, Sept. 19, at the Nevada Test Site.

The experiment was conducted in a sealed alcove at NTS's underground U1a complex, approximately 960 feet beneath the surface. Because a larger mass of high explosive was used, Piano was not fired in a containment vessel like the prior Oboe sub-crit series. So the zero-room alcove will be filled, sealed and never used again for safety and environmental reasons.

Piano examined the behavior of a flat plutonium plate, fabricated by the Livermore Plutonium Facility, as the metal was shocked by chemical high explosives. Simultaneously, sensitive instruments measured particles ejected from the metal's surface.

According to B Division Leader Charles McMillan: "All the preliminary indications point to a very successful experiment, but it will be several days before the precise results are known and verified. I



Test Director Walter Dekin (left) and Engineering Associate Director Steven Patterson (right) view Piano subcritical setup at U1a at the Nevada Test Site on Sept. 3.

am proud of the Livermore and Bechtel team that made this happen."

Subcrits began in July 1997. To date, 20 subcritical experiments have been conducted at NTS: seven by LANL and 13 by LLNL. Livermore scientists executed their last subcritical experiment, Oboe 9, on June 7, 2002. Three months later, Rocco was conducted by Los Alamos. These experiments are termed "subcritical" because no critical mass is formed, and no self-sustaining nuclear chain reac-

## A second shot for two-stage JASPER gas gun

MERCURY, Nev. — Demonstrating that one good shot deserves another, on Sept. 4, the Lab's two-stage JASPER gas gun at the Nevada Test Site fired a successful equation-of-state experiment on a plutonium target fabricated at the Livermore Plutonium Facility.

This was a measurement that provides absolute data — with no models needed for interpretation-on the shock-pressure, density, and internal energy in the plutonium at high-shock pressure. For this second Pu shot, researchers used a 4.6 km per second (10,290 mph) impact velocity and an aluminum impactor to produce lower shock pressures than in the first shot.

According to lead scientist Neil Holmes: "Our goal is to cover the entire pressure range available for JASPER plutonium experiments. It may take up to 12 successful experiments to determine the equation of state between 50-600 GPa (0.5-6 Mbar).

Holmes said, just like the first plutonium shot in July, the data return was excellent. Pu containment within the primary target chamber was also successful.

## BRIEFLY

## Traffic safety contest ends

The Traffic Safety contest held during September is complete and early entrants can expect their prizes in the Lab mail during the coming week. The Lab's Traffic Safety Committee sponsored the contest.

The contest asked employees to identify traffic hazards or parking violations at the Lab as portrayed on a poster titled, "What's Wrong With This Picture?" Correct answers along with a copy of the poster can be seen on the Web at <http://www-r.llnl.gov/traffic-safety/issues.html>

Prizes are being sent to the first 150 people who entered the contest and provided at least eight correct answers. All entrants are eligible for the grand prize drawing. The winner will be announced in early October.

## Normal hours for site access changed

The Safeguards & Security Department has announced that beginning Monday, Oct. 6, the normal hours for access to the LLNL Livermore site will change to 6:30 a.m. to 7 p.m., Monday through Friday, except weekends and Laboratory holidays. Currently, the normal hours for access to the site during the workweek are 6:30 a.m. to 6:30 p.m. This change is being made to accommodate a segment of the Laboratory

workforce that is on alternate work schedules, and require security approval to be on site after normal hours. Most employees will not be affected by this change.

For more information, contact Rick Certo, Information & Personnel Security Division, 2-0797.

## Group leader garners Dawson Award

Group leader Bruce Langdon of AX Division is a co-recipient of the first ever Dawson Award. This award honors the late UCLA physics professor John M. Dawson, a leading figure in the plasma physics community for more than four decades. Langdon was chosen as a recipient for his pioneering work and leadership in constructing the systematic scientific framework for particle simulation of plasmas and also for the many significant contributions to plasma physics from the simulations.

Langdon shared this award with U.C. Berkeley Professor C. K. Birdsall.

AX division leader Charlie Verdon remarked: "This is a well deserved award for Bruce who has been, and remains, a world leader in this field of research."

## Lecture to discuss learning differences

Author and expert in learning disabilities Ronald Davis will discuss "Understanding Learning Differences: ADHD, Dyscalculia, Dyslexia and Dysgraphia," at noon, Tuesday, Oct. 7, in the Bldg. 123 auditorium.

Davis is the founder of the Reading Research — Davis Dyslexia Correction Center and Davis Dyslexia Association International. Labeled as mentally

retarded as a child, then diagnosed as dyslexic in his 20s, he spent 38 years struggling with and hiding his "brain damage."

Despite this handicap, Davis has become a successful engineer, businessman and artist. The talk is sponsored by the Work/Life Programs Office. For more information, contact Michele Cardenas, 2-9543.

## Canberra Industries sponsors seminar

Canberra Industries will hold a one-day seminar series in Livermore from 8:30 a.m. to 4:30 p.m. on Tuesday, Oct. 7.

These seminars will address equipment and software for performing gamma spectroscopy, data management, alpha/beta counting with Radon rejection and radiation monitoring.

The introduction/discussion of several new products (Handheld Radiation Identifier, APEX, iSolo Alpha/Beta Counter, Imaging system for source location and 3D PC Simulation software for Dose Rate Calculations), and discussion of our Cascade Summing algorithms LabSOCS, ISOCS, etc. will also be provided.

To ensure your reservation at this seminar, fax an RSVP with your name, company affiliation and contact phone number to Tammy Pattison at (203) 235-1347 for each individual planning to attend. For more information, call (203) 639-2148.



AUTOMOBILES

2002 Pontiac Firebird, Pewter Metallic, Black Leather Interior, T Top, CD Premium Sound, Power Seat, Premium Wheels, 20,000 miles, Excellent, \$19,000 (925) 469-0803

2002 - Honda Odyssey LX, Silver/Grey, 25,100mi extended warranty, power windows/locks, cruise control, roof rack. \$24,000 obo After 5pm ask for Fran 209-239-0992

1999 - Exc.Cond. V8 5.7 Liter, Automatic, 4 Wheel Drive, LT, Fully loaded Roof Rack, Privacy Glass, Towing Pkg, Premium Wheels, chrome shocks with 4 inch lift 415-720-3848

1994 - Eddie Bauer Ford Explorer dark blue, black tube brush guards and steps first \$3950 OBO. Leaving state. 925-443-6777

1995 - Toyota 4Runner, 2 Wheel-Drive, V6-SR5, Full Power, Sun Roof, Alloy Wheels, \$7,900 925-426-5625

2000 - Audi A-4 Avant Quattro, excellent condition, 2.8 V6, manual, sport/ski package, 87k miles, \$17,500 415-312-1500

1969 - Mustang, rebuilt 6cyl w/10K mi, automatic, new carb, needs paint, smog exempt. \$1800 obo. 925-449-7651

1996 - NISSAN Sentra. AT,A/C,AM/FM/CD. 80K miles, clean, looks and runs good. \$4,000. 925-961-0843

1993 - Infiniti J30t, black on black leather, 101,000 mi. Bose, CD, sun roof, premium wheels, very nice, one owner. \$7300. 925-846-8919

1996 - Ford Explorer XLT, 4WD, 84K miles, Gold, loaded, all power, immaculate condition, \$8,250. 925-872-7264

1991 - MBZ 300E. Excellent condition. Automatic. Teal blue/beige leather seats. 4 doors, AC, sun roof and more. 145000 mi. \$7000. 925-461-1515

1989 - Honda Civic LX, 170K Miles, very clean, \$2000 925-240-6237

1998 - Cherry Red Ford Escort Zx2: Automatic, tinted windows, alloy wheels, A/C, low mileage (69k), good gas mileage, great condition. \$4900. 209-847-8467

AUTOMOBILE ACCESSORIES

2002 chevy silverado 16 inch rims with goodyear tires. Tires in good shape (19,000 miles on them) 510-610-0134

Brand new step bars for a 2003 Chevy Crew cab pickup \$200.00 209-667-6220

Bumper loops for CJ7 Jeep. \$20 209-612-3967

Alpine CDM-9803 CD Receiver; CD-R/W playback detachable face; 23 watts RMS x 4; front and rear preamp outputs; changer control 510-537-8077

1964 long truck bed - \$100 or BO. 209-537-2961

Thule roof rack. On a Honda civic now. Excellent condition. \$220 new. Selling for \$75 OBO. 510-351-0969

BICYCLES

20-inch boys bike by Murray, 6-spd, dk blue, hardly used, great condition! \$45. 209-814-6866

BOATS

13 ft. Okamoto F-13 Inflatable, Mercury 9.8 long shank motor, trailer. \$500 OBO. 925-846-8919

Boat trailer, 1998 Hustler Drive-on single axel. Holds 16-22 foot boat. Excelent cond. \$1200 925-449-9294

Spectrum fishing boat 1989 17ft. 50hp outboard Excellent condition, low hours, trolling motor, extras. 209-239-5730

ELECTRONIC EQUIPMENT

Hi Fi Speakers: Pioneer 12inch 4-way, \$200/pair, Mitsubishi 10 inch 3-way, \$95. AR Subwoofer, \$75 All excellent and worth much more. 925-361-7111

CLASSIFIED ADS

Television set - 27 inch in good working order with remote. \$50/OBO. 925-443-3076

Jukebox, Seeburg Stereo Console, Model LPC-1 BX, guess made in 1960s. 45s included. \$300/BO 925-373-0247

Transformer for neon light 9600V. \$15 925-455-8609

GIVEAWAY

Oven - jen-naire wall oven, 30 inches wide, good condition. Free. 925-449-8487

Cultured marble bathroom countertop, single piece with 2 sinks. Approx. 22 inches deep by 67 long. Excellent condition, cream colored. You pick up. 510-351-0969

HOUSEHOLD

GE (Black) profile build-in 30in wide double Microwave/Thermal Oven. Orig. \$1599, never opened. Perfect as a replacement. \$699, what a deal! 925-361-7111

Oak 6 Drawer Dresser 46x17x28 \$65/obo, Computer Desk 28x20x30 \$30/obo, both great condition 209-499-3793

White Plantation Shutters for sale, fits 106x80 inch slider, good condition. Located in Alamo, you haul. \$300. 925-314-9478

File Cabinets beige metal - 2DR \$25 - 4DR \$50. Pastel blue/beige plaid hide-a-bed w/o middle bar \$200. Near lab. 925-373-6492

White Kenmore Electric Dryer. ~3 years old. Excellent condition. \$100 209-401-9688

Lava lamp, purple, new light bulb. Works great. \$15. 925-846-3653

BIG MOVING SALE 5513 Haggen Oaks, Livermore. Fri & Sat 9 - 2 NO early birds, Look for yellow balloons. 925-784-1887

New Andersen Window. Rough Opening 5 ft. 10 in. x 4 ft. 1/2 in. Double Pane, wood interior/white exterior. Paid \$538./ Asking \$200. 925-831-9865

Newer large capacity Kemore washer and electric dryer \$250. Other items available. Leaving state and not taking anything. 925-443-6777

For Sale Kirkland Signature Washer and Dryer. 2 1/2 yrs. old, great cond. \$250.00 925-449-5957

Formal Hardwood Octagon Dining table, has 2 leaves, seats 12, plus 4 chairs. \$300. 925-447-3811

CEDAR CHEST... HELP! We have too much stuff! Cedar Chest w/lt. tan bench seat. Med-dark wood. Kept in great shape, smoke-free home. 925-454-8518

Roll top desk, Dark oak, solid wood. Excellent cond. Paid \$1200, sell for \$600 925-516-8339

Crib/Mattress/pad, changing table and dresser. Natural maple. Excellent cond, Not a scratch. \$600 925-516-8339

GE Built-in Electric Oven (White). 5 years old in great condition. \$200/obo 925-606-4363

Kenmore Washer 6 months old \$350, GE Dryer \$200, Kenmore Fridge/Freezer \$100, Table Saw \$100, Sleeper Couch \$150, Recliner \$75, Coffee table \$10 925-443-0902

Desk oak L-shape very good condition \$175.00 Oak rolling desk chair \$35.00 Fish tank w/oak stand 50 gallon \$100 925-449-1340

Maple color 4-drawer dresser, good shape \$40; rodent cage 12 in. cube w/ water bottle, \$15; large (3ft) Little Tykes slide, \$20. 925-443-7505

Baby crib, excellent condition, mattress like new. \$85; Coffee Pots, 55 cup West Bend \$18; 30 cup toastmaster \$12; Box fan \$5; Iron Board \$8. 925-447-4841

Kitchen appliances. Kenmore microwave: \$25 obo. Maytag gas range: \$75 obo. GE roll-around dishwasher: \$35 obo. 925-443-9182

Hitachi breadmaker HB-101. \$25 925-455-8609

Resolute brand free standing wood stove. Great shape. Small glass panels in doors. \$375/OBO. 925-245-1114

Whirlpool 22.0 cu. ft. Side-by-Side Refrigerator. Color white. Great Condition. \$60 OBO. 925-249-9186

Sofa & Reclining Loveseat, GREAT CONDITION, Krauses Furniture. Picture avail. \$500 OBO 209-830-9969

Complete livingroom set Like NEW Blue couch, loveseat & chair. 2 maple endtables matching entertainment center & lamp. All just \$1500 OBO 209-830-8503

Fireplace insert, Lopi, brass trim w/fan, extras. Excellent. \$495 BO (925) 443-4499. 925-443-4499

Whirlpool Washer \$100, oak bar/kitchen stools \$150/pair, oak wall entertainment unit \$120, two tier oak microwave stand \$40 925-447-5130

Queen bent tube head board in excellent shape \$20 209-234-2314

Single mattresses/frames (2), like new, \$175 or B/O; Wood student desk - \$50 or B/O. 925-373-0314

MISCELLANEOUS

SONY PS2/DVD Game station. Like NEW. Loaded with accessories & 15 Games. \$400 or best offer 925-361-7111

Dress round, professional, chrome swivel-style. Perfect for craft show or garage sale display. Good extra clothes storage rack. Near lab. \$90 925-373-6492

Couch and extra pillows \$200. Cost \$900. Floral pattern grey and beige. Inherited - almost new. 925-443-6531

GARAGE SALE in Discovery Bay: Saturday, October 4. 8-? Pool table. Freezer. 2261 Biscay Court. 925-858-9628

GORGEOUS 7 ct diamond tennis bracelet. SI-VS clarity, light champagne color. Appraised (have certificate) @ \$12K. First \$4K offer, or BO by 10/31. 209-545-7906

John Deere 2010 back hoe runs good, looks good \$5500.00 925-454-1749

Samsung Microwave Oven Great Cond. \$50.00. Bunkbed, black frame, bottom bunk is a double bed that converts to a couch. Great Cond. \$150.00 925-449-5957

Craftsman 10 inch Radial Arm Saw. \$150. 925-447-3811

Livermore Youth Soccer Leagues 3rd Annual Dinner Dance, October 18th, Shrine Event Center, 170 Lindbergh Avenue, Livermore, starting at 6:30 pm. 925-455-1842

GE Built-in Microwave/Convection Oven (white). 5 years old in great condition. \$100/obo. 925-606-4363

7 Drawer Desk \$50, Video Cabinet \$5, 2 Mirrored pedestals (3ft \$ 2ft) \$25 each, Filing Cabinet \$10, 2 Twin Beds \$75 each 925-443-0902

Firewood - well seasoned, approx. 1 cord neatly stacked in Manteca - \$90.00 OBO, you haul. 209-823-9523

Telesensory Aladdin Classic Viewer for Visually Impaired Like New Used Short Time Need Sell 510-793-9135

1964 Chevy pickup long bed. \$100 or BO. 209-537-2961

Original Floral Oil Painting, nicely framed, would be nice hanging on any wall. \$25.00 925-449-8035

Treadmill - Lifestyler \$40 925-828-3295

GARAGE SALE Fri Oct 2, Sat Oct 3 8AM-4PM 926 Alden Lane 925-455-9414

FIREPLACE INSERT, Lopi, brass trim w/fan, extras. Excellent. \$495 BO. 925-443-4499

MOTORCYCLES

1994 - Harley FLSTC Classic. \$23,000 invested. Everything chromed. Handmade Fatboy emblems, 7200 miles. Black-Cream. Custom everything. Must see. \$17,500 925-777-9139

2002 - Yamaha Kodiak 400cc 4X4 Automatic, Push Button 4x4, 2000lb Warn Winch, Gear racks, Ex warranty Sept. 2006. \$4500.00 OBO. 209-827-0822

2003 - Honda CRF-230 dirtbike, electric start, mint cond, less than 200 miles ridden, \$2,950 never raced, front disk brakes 209-

See complete classified ad listings at <https://www.ais.llnl.gov/newsline/ads/>

832-2056

Kawasaki Concours ZG1000 Red with hard luggage, new Corbin seat, Runs strong 209-545-2688

2003 - Yamaha YZ125, Pro-Taper Bars/FMF Fatty/Work Con. Frame guards, one ind. sticker kit/jetted, FMF sparky/Excel Rims w/fly stand \$4000, obo 925-447-0546

MUSIC INSTRUMENTS

Suzuki violin, 1/4 size, Wolf violin headrest (1/2 size), Violin Strings, all like new. Make offer 925-361-7111

Antique player piano needs a home. \$300 209-537-2961

PETS & SUPPLIES

SHEPHERD MIX/ female/ one year / spayed/ shots/ good dog / great with kids / this dog loves to please you! 925-957-1866

Chihuahua Puppies Adorable 7wks 1st shots ready in 2 wks 2 males \$300 ea. 209-983-9878 209-983-9878

Large Pet Zone Dog House. Great Cond. Has been outside, but never used. retail \$80, sell for \$50. 209-835-2751

Free: Rottweiler/Shephard female 11 months old looking for a good home. Has been fixed and has had all shots. 925-516-0410

RECREATION EQUIPMENT

Camper - cab over camper for full size pick up, good condition, water tight. Free. 925-449-8487

International tractor-3000, bucket and brush hog mower, runs good \$3150.00 925-454-1749

Batting/Pitching Cage 10X10X30, made from 1X1 square tube, netting included, Welded together U-haul 150.00 209-835-8976

Pair of PRE snow skis with tyrolia bindings in excellent condition \$50 209-234-2314

RIDESHARING

Express your commute, call 2-RIDE for more information or visit <http://www-r.llnl.gov/tsm.p>.

Orinda - Carpool from Lamorinda seeks 4th rider/driver. Carpool meets near St. Stephens and Hghwy 24. Lab hours 8am to 4:45pm. 925-253-0498, ext. 2-9823

BERKELEY - Rider/driver needed to complete a four person carpool. Leave north Berkeley 7 am. Leave LLNL 4:40 pm. 510-524-8332, ext. 2-5949

Lafayette - LaMOrinda Vanpool (also Walnut Creek stop at Rudgear Rd): reclining seats, reading lights, 7:45-4:45, \$105/mo (pretax reduction available) 925-943-6701, ext. 2-3005

Manteca - 9/80s schedule. Rider/Driver needed. Hours 7:00 to 5:00. Many options available. Call to discuss. 209-825-0326, ext. 3-0631

Galt/Lodi/Stockton - Looking to form a 2-4 person carpool with others on the 9/80 AWS. Working hours 7 to 4:45pm. If interested, please call. 209-334-1006, ext. 4-4175

Sonora - Looking to carpool from the Sonora, Columbia, Jamestown area. Hours flexible. 209-588-8733, ext. 4-3919

SHARED HOUSING

Pleasanton - Room for rent. Private bathroom plus kitchen and laundry privileges; utilities included, cable ready. No pets, smoking or drugs, \$550.00. 925-426-0675

Livermore - Room for Rent \$550, plus 1/3 Utilities, 1 mile from LLNL. No Smoking/Pets 925-989-6138

Livermore - Tired of commuting? Fully furnished room available from Sunday night through Friday. Quiet. Kitchen privileges. \$350 925-443-3076

Dublin Ranch - Room for rent, \$725/month, nonsmoker female, no pets. 925-828-1014

Livermore - Large bedroom and office, living room and private half bath available in beautiful 3300 sq. ft. home on 5 acres. \$675

+utils. 925-454-5348

Livermore - furnished room for rent. Clean/quiet. \$550.00/month. Long term. Share utilities 1/3. Mature adult. Deposit required. No pets/no smoking. 925-449-1128

SERVICES

Daycare in Manteca Mon-Fri. Daily Activities for all ages 209-239-7707

Experienced and reliable housekeeping and cleaning. References available. 925-243-1622

Interior painting - quality work, reasonable, reliable and references. 925-640-5233

Fun Loving Daycare opening full time or part time infant and up. 925-455-5201

TRUCKS & TRAILERS

2001 - Chevy Silverado 2500HD 4x4 Short bed, Ex Cab LS Package. 6.0 liter, too many options to list. 32K miles \$24,500. 209-827-0822

2001 - Toyota Tundra LTD w/new tires, running boards, spray-on bed liner, 6CD Xer, day time running lights, tow pkg and more 29K miles \$18K OBO 925-449-5481

1985 - Motorhome, 23ft Cobra, Ford 460 V8, Tub/Shower, Toilet, Refrigerator, Microwave/Convection, Cooktop, A/C, Heater, 6500 miles, Good Condition. \$8,900. 925-426-5625

2000 - REDUCED price! Dodge Dakota 4WD, club cab, 28K miles, 4.7LV8, auto, AC, PS, PB, pwr win/lcks, cruise, AM/FM/cas, alarm, ABS, bed liner, \$13,500 925-245-9904

1996 - Ford Explorer XLT, 4WD, 84K miles, Gold, loaded, all power, immaculate condition, \$8,250. 925-872-7264

1991 - Ford F150 XLT Lariat, Supercab, V8 Auto, 4WD, Loaded, bed liner, dual gas tnks, pwr windows/locks, nice wheels, no problems, clean in/out. \$5600 925-449-4796

1996 - Dodge truck, diesel, 4WD, SLT, club cab, auto, shell, loaded, one owner, all records, perfect condition, \$16,500 firm 925-484-3162

VACATION RENTALS

Olympic Village Inn, Squaw Valley - 1 bedroom timeshare condo available Thanksgiving week (11/13-29) at Olympic Village Inn. Sleeps 4, fully furnished, ski slopes. Reasonable rate 925-361-7111

Solana Beach/Del Mar - Oceanfront condo, deluxe 2br., 2 1/2ba., fully equipped, tennis, pool, jacuzzi, gated and covered parking, near San Diego attractions. 925-443-2271

SOUTH LAKE TAHOE - 3 Bedroom 2 bath Chalet, remodeled, nicely furnished, All amenities, Close to all Skiing, Off-season rates now. 209-599-4644

Maui, HI - Kahana Reef oceanfront 1BR/1BA condominium. Beautiful two-island view, oceanside pool, and BBQs. Low LLNL rates for year-round reservations. 925-449-0761

Oregon Coast - Spectacular view of Alsea Bay and Ocean from Wall to wall windows. 4bd, 3 bath, fireplace and deck. Waldport, Oregon. 510-483-3745

WANTED

49er tickets to Nov. 17 Steelers Game, need 4, need not be together, plus parking pass. Will pay face value. 925-443-5641

Free or inexpensive go-kart frame for father/son project. 925-443-9182

US or foreign stamp collections. Big, small, any size considered. Evenings call 925-449-1294

Services and merchandise listed in *Newsline* are not guaranteed. It is up to the buyer to scrutinize services purchased.



# AROUND THE LAB



## Review system facilitates sharing with science community

By Dale Sprouse

IBIS

Under a new document review process that started Oct. 1, authors and directorates assume a major role in assuring that the Laboratory appropriately releases unclassified information.

As a first step in document review, authors should consult with a designated Authorized Derivative Classifier (ADC), when appropriate, and the Office of Classification and Export Control (OCEC) to determine if the document is classified, said Pam Smith, head of the Innovative Business and Information Services Department (IBIS).

IBIS is managing the new process, called Information Management (IM).

Smith said the Lab's new IM policy, which is a key element of the new review process, aligns with a Department of Energy requirement to share scientific and technical documents with the world-wide scientific community.

Annually Laboratory employees create thousands of documents, which vary in scope and content — from scientific and technical to administrative, Smith pointed out. The docu-



ments, however, share one major trait: the information must be managed and protected, in accordance with National Nuclear Security Administration/DOE and Contract 48 requirements, before the documents are released to intended audiences.

"The commitment of authors and their directorates to the new IM process will contribute to the collective success of the Laboratory in meeting the mandated information management requirements," Smith said.

She noted that for the past year, IBIS has been conducting training with directorates for their authors and designated reviewers on the new system, which is being rolled out by directorate.

One of the new IM features is a Web-based system for review of unclassified documents. Using the Web-based system:

- Authors, after having consulted with an ADC or the OCEC, when appropriate, will ini-

tiate reviews online of unclassified documents, while directorates control the review path based on the IM policy. The type of information (scientific, technical, administrative) and the audience (internal, government, external) determine the rigor of the review.

• Directorate reviews, who will screen the documents for content and sensitive information, forward the documents electronically to subject matter experts when necessary or required for review of export control, intellectual property or patent issues.

Smith said the streamlined process is designed to shorten the time it takes to review unclassified documents and release them.

Authors of classified documents will continue to have their classified documents reviewed by having them delivered to Bldg. 551W along with a completed Document Review Form (LL6397).

Additional details about Information Management can be found online at <http://im.llnl.gov> or in a brochure being distributed to all employees. The online resource will list directorate implementation dates. Authors should contact their directorate IM representative about implementation details.

### EMERGENCY

*Continued from page 1*

a brochure containing information on how valley citizens will be informed of a community-wide emergency, what they should do if one occurs and where they can turn for help. Also included is a refrigerator magnet reinforcing the emergency response principals of Shut, Shelter and Listen.

The emergency public information campaign is

the result of a collaboration between the Lab, the Alameda County Office of Emergency Services, the Livermore-Pleasanton Fire Department and the city of Dublin.

"The Lab is very pleased to be part of this community service effort," said Den Fisher, associate director for Safety & Environmental Protection. "We are already heavily involved in the Tri-Valley's emergency response network through our mutual aid and emergency dispatch responsibilities, and thus are happy to do what we can to help make the valley a safer place

to live and work."

Individuals seeking more emergency response information beyond that contained in the guide may contact their local office of emergency services.

"We hope all of the people in the Tri-Valley area will read and keep handy the information contained in this practical guide," said Linda Shelton, Alameda County's senior emergency services coordinator.

"This guide is a concise, convenient resource listing the most important actions people can take to help keep themselves safe during a community-wide emergency."

### UC

*Continued from page 1*

enrich our campuses with a multitude of contributions. Our alumni use their UC education to become innovators for our society in business, medicine, the arts, education, public service, and countless other fields. Our employees at the national laboratories make breakthrough achievements in a startling array of scientific fields while also making an important contribution to our nation's security. And our many other friends in the community provide much-needed support for the university and its mission. Together we make an invaluable impact on millions of individual lives throughout the world.

"We have many challenges to face, particularly in the current state budget climate in California. But I am greatly optimistic about this institution's future, and I am eager to begin working together toward that future.

"Over the coming months, I will be traveling throughout California — and to New Mexico, home of the Los Alamos National Laboratory — to meet firsthand with the many members of the University of California community. Rather than have a formal inauguration ceremony, I intend to make these events a kind of inaugural 'tour' of the University of California and the regions it serves. I will be meeting with faculty, staff, students, alumni, and friends of the University, along with local individuals in elected office, business, the media, and many other areas, to hear their perspectives on the University of California and the opportunities before it.

"In the meantime, I will be holding a series of

three 'Web chats' in the coming weeks — focusing separately on faculty and staff, student, and alumni issues — as I want to hear from you about your concerns, your ideas, and your dreams for UC. The chat schedule and set-up can be found at <http://www.university-of-california.edu/newpresident/chatinvite.html>. I hope you will join me for the kind of two-way communication that is so important to the effective functioning of an institution like ours."

### Farwell from Richard Atkinson

On his last day in office Wednesday, Atkinson sent the following farewell message:

"On my last day as president of the University of California, I want to extend my heartfelt appreciation and best personal wishes to all of you.

"I am honored to have had the opportunity to be a part of this university community. Your skill, energy, and commitment have preserved this institution as a place where the very best students from all walks of life get a first-rate education, where cutting-edge research improves our economy and our understanding of the world around us, and where community engagement is deep and substantive. There simply is no institution like the University of California anywhere in the world, and I hope you take pride in what you have helped to build here.

"Like the rest of the state, the University of California is now in the middle of difficult budget times. Programs are being cut, employee positions are being lost, cost-of-living increases are not being provided due to lack of state funding, and



JACQUELINE MCBRIDE/NEWSLINE

Richard Atkinson

health care premiums are increasing. The university is doing its best to absorb these impacts in the least damaging ways — the structure of our 2004 health care plans attempts to shield lower-paid workers from the worst of the rate increases, for example — but I know these still are challenging times for everyone.

"We do know, however, that economic expansion and contraction are cyclical.

The bad times do, in fact, come to an end. I hope you will keep that perspective in mind, and I hope you will persevere in your own work, no matter what role you play in the UC community. Your work today will help the university emerge from the current budget downturn strong and secure.

"I have submitted a formal set of farewell remarks to the Board of Regents, and I invite you to read those remarks at <http://www.ucop.edu/pres/speeches/farewellremarks.html>. They expand on my views about the university, its challenges for the future, and its tremendous accomplishments for the people of California, the nation, and the world.

It has been a pleasure working with such a talented and committed community of people. Thank you, one final time, for all you do to make the University of California great...Fiat Lux,"

CELLS

Continued from page 1

chemists and physicists from the Biology and Biotechnology Research, Chemistry and Materials Science, Defense and Nuclear Technologies directorates and PAT, will enable the scientific community to attain atomic resolution imaging of virtually any macromolecule, protein or virus.

X-ray free electron lasers produce intense X-rays that are short enough in duration that a diffraction pattern could be recorded from a particle such as a single molecule. The lasers will be 10 billion times brighter than any existing light source.

“No one knows how to go from sequence to structure,” he said. “With this technology, you could see the mechanics of the molecular interaction all the way to the cellular level and then you can really begin to see how life works.”

Current research in molecular imaging requires crystallization of a protein, a process that, in some cases, can take more than a

decade of research to produce. Chapman said that although more than 15,000 proteins have been crystallized and studied at the atomic scale through this process, these represent only a small fraction of all proteins.

But with X-ray free electron lasers, molecular imaging would not only occur very quickly but could ultimately lead to rapid detection of biological agents and the development of medical diagnostics and therapeutics.

“By eliminating the need to crystallize a protein, it removes that bottleneck from the whole equation,” he said. “The X-ray is so intense in such a brief amount of time that you can see single-molecule diffraction patterns.”

The full three-dimensional structure would be derived from many diffraction patterns, recorded from a stream of identical molecules that are fed into the X-ray beam. Each molecule would be destroyed by interaction with the intense pulse, but not before the information carried by the diffraction pattern is recorded.

Under the LDRD project, the team has modeled this molecular imaging, but under a new Strategic Initiative proposal, the team would per-

form a set of integrated experiments at short-pulse intense X-ray sources to test the key ideas behind single-molecule X-ray free electron laser imaging.

During the initial phase of the project, the team secured beam time at the world’s two premier short-pulse high-fluence X-ray sources: the Sub-Picosecond Photo Source (SPPS) at Stanford Linear Accelerator and the Tesla Test Facility phase 2 (TTF2) in Hamburg, Germany.

Chapman hopes to ultimately secure beam time on the linac-driven free electron laser (X-ray FEL) being built at SLAC and set for completion in 2008.

Using X-ray free electron lasers, scientists eventually will be able to: produce three-dimensional imaging of pathogens (virus, spores, bacteria) to provide quick detection or determine the full structure; determine the high-resolution structure of molecules that are hard to crystallize such as intact membrane proteins; analyze high-throughput biomolecular structure using nanocrystals; and determine time-resolved structure for the direct observation of enzyme reactions.

HOMELAND

Continued from page 1

emergency professionals, critical infrastructure managers, national lab researchers and others.

“The boundaries between agencies need to drop in an emergency,” said Pat Martel, executive director of the San Francisco Public Utilities Commission.

“We are all working in the public’s interest,” added Martel, whose organization supplies water to 2.4 million people and is the largest water supplier in Northern California.

In facing the threat of bioterrorism, she said, the San Francisco Public Utilities Commission is attempting to work with other water districts for mutual assistance. “No individual district can act alone in an emergency.”

Bill Wipprecht, a senior vice-president and director of security for Wells Fargo Bank, said: “We need to mutually support and help each other.”

Wipprecht and Martel made their comments during a morning panel on critical infrastructure, which was moderated by Jill Watz, of the Lab’s Critical Infrastructure Protection Program, and Nicholas Imparato of the Hoover Institution. Other infrastructure sectors represented on the panel included telecommunications, shipping, aviation, the electric and gas industry, and public health.

Another conference speaker was Ed Gabriel, the deputy commissioner for Preparedness in New York City’s Office of Emergency Management, who offered a perspective as someone who responded to the Sept. 11 attack.

“When the big one hits, you need to think big and the turf barriers need to come down,” Gabriel said, later adding that Sept. 11 was not a day for exchanging business cards.

Gabriel also stressed the importance of having biode-

tection equipment that is accurate and functions without false positives.

Noting that the New York City subway can’t be closed down because of false readings on detectors, he said: “Political and public information problems result when devices don’t work.”

There is real value in having a Joint Information Center, said Gabriel, because it allows different agencies to speak with “one voice and one message,” helping to ensure a consistent message, accuracy and trust.

Don Prosnitz, deputy for strategic plans in the Laboratory’s Homeland Security Organization, discussed how Bay Area communities and jurisdictions would deal with a terrorist attack, particularly compared with an earthquake.

“We need to strike a careful balance between panic and complacency, and look at the threats realistically,” Prosnitz said. “Good management and good planning can limit the consequences of these events.”

Although a biological terrorist release is a very real threat, Prosnitz told the downtown San Francisco gathering that the consequences are “highly uncertain.”

Comparing a bioterrorist release with an earthquake, for which extensive planning and training have already been done and for which Bay Area officials are well trained to handle, Prosnitz noted that quake damage is observable whereas the effects of a biological release would be difficult to discern.

If a major earthquake strikes along the north Hayward fault, it is projected that up to 65,000 homes could be uninhabitable, he said, next asking: “How many homes would be uninhabitable for a bio-aerosol release?”

In the wake of a bioterrorist attack, housing may need to be provided, and evacuation and rehabilitation policies may well need to be standardized across jurisdictions, he said.

“We know how to rebuild buildings; are we prepared

for the decontamination of buildings,” he asked.

Building decontamination, Prosnitz noted, is currently a “slow and expensive process.” For example, decontamination of the of the Hart Senate Office Building cost \$23 million, while American Media recently sold its \$10 million building in Florida for only \$40,000.

However the good news, Prosnitz said, is that the Hart Building is occupied again, and mail is sent and received. “What we need,” he added, “are early warning systems, and faster and cheaper responses.”

“The Bay Area has a lot to share (its earthquake expertise) with the country and we should take that on as an obligation.”

Wednesday’s conference was sponsored by the Bay Area Council, the Association of Bay Area Governments, the Bay Area Science and Innovation Consortium (BASIC) and the Bay Area Economic Forum.

Sean Randolph, the president of the Bay Economic Forum, noted the Laboratory’s assistance with the event, saying, “Lawrence Livermore has been a tremendous partner in helping put together this conference.”

HEALTH CARE

Continued from page 1

mation on these changes as it becomes available and will hold several presentations during Open Enrollment, which takes place through-

out November. Information will be mailed to all UC employees beginning in mid-October, or they can access it on the Web at <http://www.llnl.gov/llnl/02employment/benefits/benefits.htm>. Click on Open Enrollment 2004. For questions, you may call the Benefits Office, 2-9955.

How can we honor Dr. Edward Teller?

What would be appropriate to dedicate to Dr. Edward Teller in his memory? The Laboratory wants to honor Teller by naming a special item after him, such as a road, a building or perhaps a lecture series.

As one of the Lab’s founders, Teller deserves a unique dedication, says Tom



Isaacs, head of the Office of Policy Planning and Special Studies. The office is gathering ideas on dedication possibilities from employees.

Please send your ideas to Jan Tweed at [tweed1@llnl](mailto:tweed1@llnl) or 2-4597 by Friday, Oct. 10.



Newsline  
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